

What is claimed is:

- 1 1. A method comprising locking at least one entry in a translation look-aside
2 buffer (TLB) to make the at least one entry available to a process during at least two
3 active periods of the process.
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- 2 2. The method of claim 1 further comprising determining a number of entries
3 to lock.
- 1 3. The method of claim 2 wherein determining a number of entries to lock
2 comprises counting unique page access instances during an active period of the
3 process.
- 1 4. The method of claim 3 wherein determining a number of entries to lock
2 comprises determining a value of a page usage metric for the process.
- 1 5. The method of claim 4 wherein determining a number of entries to lock
2 comprises comparing the value of the page usage metric to values of page usage
3 metrics for other processes.
- 1 6. The method of claim 4 wherein determining a number of entries to lock
2 comprises comparing the value of the page usage metric to a sum of values of page
3 usage metrics for a plurality of processes.
- 1 7. The method of claim 4 wherein determining the value of the page usage
2 metric comprises considering an amount of time the process is active.
- 1 8. The method of claim 1 wherein the TLB includes a plurality of entries, the
2 method further comprising determining which of the plurality of entries to lock.

1 9. The method of claim 8 wherein determining which of the plurality of entries
2 to lock comprises selecting a most recently accessed entry.

1 10. The method of claim 8 wherein determining which of the plurality of entries
2 to lock comprises selecting a most commonly accessed entry.

1 11. A method comprising:
2 counting a number of unique page accesses made by a process running on a
3 processor; and
4 locking at least one translation look-aside buffer (TLB) entry that
5 corresponds to the process.

1 12. The method of claim 11 further comprising determining a number of TLB
2 entries to lock.

1 13. The method of claim 12 wherein determining the number of TLB entries to
2 lock is based, at least in part, on the number of unique page accesses made by the
3 process.

1 14. The method of claim 12 wherein determining the number of TLB entries to
2 lock is based, at least in part, on a frequency of invocation of the process.

1 15. The method of claim 12 wherein determining the number of TLB entries to
2 lock is based, at least in part, on a priority level of the process.

1 16. The method of claim 11 further comprising:
2 determining a value of a page usage metric from the number of unique page
3 accesses; and
4 determining the number of TLB entries to lock in response to the value of
5 the page usage metric.

1 17. The method of claim 16 wherein determining the value of the page usage
2 metric comprises considering a priority level of the process.

1 18. The method of claim 16 wherein determining the number of TLB entries to
2 lock comprises considering the value of the page usage metric and values of page
3 usage metrics for other processes running on the processor.

1 19. The method of claim 16 wherein determining the value of the page usage
2 metric comprises considering an amount of time the process is active.

1 20. An apparatus including a medium adapted to hold machine-accessible
2 instructions that when accessed result in a machine performing:
3 counting a number of unique page accesses made by a process; and
4 locking at least one translation look-aside buffer (TLB) entry that
5 corresponds to the process.

1 21. The apparatus of claim 20 wherein locking at least one TLB entry
2 comprises:
3 determining a value of a page usage metric from the number of unique page
4 accesses; and
5 determining a number of TLB entries to lock in response to the value of the
6 page usage metric.

1 22. The apparatus of claim 21 wherein the page usage metric is based, at least in
2 part, on a frequency of invocation of the process.

1 23. The apparatus of claim 21 wherein the page usage metric is based, at least in
2 part, on a priority level of the process.

1 24. The apparatus of claim 21 wherein determining the number of TLB entries
2 to lock comprises considering the value of the page usage metric and values of page
3 usage metrics for other processes.

4 25. A processor comprising:
5 a translation look-aside buffer (TLB) to hold a plurality of entries; and
6 a counter to count page access instances;
7 wherein the plurality of entries in the TLB are individually lockable.

1 26. The processor of claim 25 wherein the counter is adapted to be read by an
2 operating system.

1 27. The processor of claim 25 wherein the plurality of entries in the TLB are
2 adapted to be individually lockable by an operating system.

1 28. An electronic system comprising:
2 an amplifier to amplify communications signals;
3 a processor coupled to the amplifier, the processor including a translation
4 look-aside buffer (TLB) with lockable entries; and
5 an SRAM storage medium accessible by the processor, the storage medium
6 configured to hold instructions that when accessed result in the processor
7 performing:
8 counting a number of unique page accesses made by a process; and
9 locking at least one TLB entry that corresponds to the process.

1 29. The electronic system of claim 28 wherein locking at least one TLB entry
2 comprises:
3 determining a value of a page usage metric from the number of unique page
4 accesses; and

5 determining a number of TLB entries to lock in response to the value of the
6 page usage metric.

1 30. The electronic system of claim 29 wherein the page usage metric is based, at
2 least in part, on a frequency of invocation of the process.